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Buckman Direct Diversion - Detailed Project Description

General Overview

The proposed Buckman Direct Diversion Project (Project) is designed to address the immediate need for a sustainable means of accessing water supplies for the City of Santa Fe, Santa Fe County, and Las Campanas Limited Partnership. The proposed point of diversion is located on the east bank of the Rio Grande in northern New Mexico, near the historic Buckman townsite. The proposed diversion site is about 15 miles northwest of the City of Santa Fe. It is located about 3 miles downstream from where Route 4 crosses the Rio Grande at the Otowi Bridge, which is where streamflow data have been recorded by the U.S. Geological Survey for more than a century. In addition to the diversion, the project involves treatment and conveyance of water through new pipelines that generally follow existing roads and utility corridors. Water will be conveyed through the proposed facilities to Las Campanas as well as the City and County. Extensive new facilities must be designed and constructed to divert, convey, and treat river water diverted from the Rio Grande as part of the Buckman Direct Diversion Project and to deliver the finished drinking water to points of connection with existing City and County drinking water distribution pipelines. The new facilities to be designed and constructed are summarized in the following paragraphs.

Water will be diverted from the Rio Grande through an intake structure with a 28 to 32-cfs peak capacity. A low-head pump station within an equipment and controls building will pump water through new pipelines from the diversion facility to the sedimentation facility. The sedimentation facility will consist of either high-rate settling basins or high-rate mechanical solids separation equipment to remove sand and grit to protect pumping equipment. If approved by EPA, a return pipeline will be constructed connecting the sedimentation facility to the river to return approximately 4-cfs of water containing settled sand back to the Rio Grande. If the return pipeline is not approved, drying lagoons will be constructed to dry the sand to be hauled away for disposal or reuse (possibly to be used as daily cover at the local landfill nearby).

Two 18.25-mgd capacity high-head pump stations, one located near the sedimentation facility (Booster Station 1A) and one adjacent to existing Buckman Booster Station 2 (Booster Station 2A) will convey raw water from the sedimentation facility through one or two conveyance pipelines to Las Campanas and the City/County water treatment plant (WTP). Another 3.25-mgd peak capacity booster station (Booster Station 3A) will be located east of the existing Buckman Booster Station 3 for use by Las Campanas.

Treatment of the diverted water will be accomplished through two new water treatment plants. One 1.5- mgd package plant will be located near the existing Buckman Booster Station 4 and operated by Las Campanas. A City/County 15-mgd water treatment plant (WTP) located at the Municipal Recreation Complex (MRC) will be contained within a 20- to 25- acre site. Two new booster stations (4A and 5A) will be located at the City/County WTP. Booster Station 4A will have a capacity of 8.9-mgd and will pump treated water to the existing Buckman pipeline for distribution of treated water into the City's distribution system via the existing 10-million-gallon tank. Booster Station 5A will convey up to 15 mgd of finished water to the southwest portion of Santa Fe and will be connected to the County's distribution system in two locations.

The Project includes over 40 miles of 12- to 36-inch raw and finished water pipelines that extend from the river to as far as the intersection of Interstate 25 and NM 599. The Project may also include the realignment and upgrade of approximately 9 miles of Buckman Road to improve access to all facilities and/or to facilitate exportation of sand and grit from the sedimentation facilities. An additional quarter mile of an existing utility corridor road into the WTP will be upgraded and paved for plant access. Ancillary work includes construction of a new electrical substation adjacent to Caja del Rio Road, upgrades to the existing Buckman Substation near existing Buckman Booster Station 2, and installation of electrical service facilities by the electric utility.

Delineation of "Shared" and "Only" (i.e., Individually Owned) Facilities

Below is a description of Buckman Direct Diversion facilities and the parties that have a shared or individual responsibility for them.

Las Campanas, the City of Santa Fe (City) and Santa Fe County (County) are Proponents for the Buckman Direct Diversion Project (Project). The Project includes a number of facilities from the point of diversion to the connections to other facilities. These facilities are either:

- Shared by Las Campanas, City of Santa Fe, and Santa Fe County ("near-river"), or
- Shared by City of Santa Fe and Santa Fe County (exclusive of Las Campanas), or
- Las Campanas "only" facilities (exclusive of the City and County of Santa Fe)

<u>Las Campanas, City of Santa Fe and Santa Fe County Shared Facilities</u>

Facilities shared by all three of the Proponents will include:

- Screened river intake, low-lift pump station, Diversion Support Facilities Building with associated mechanical, electrical and control equipment on the river front at Buckman, generally termed as the "near river facilities"
- A Sediment Removal Facility (SRF), or sedimentation facility, near Buckman Well No. 2 approximately 0.8 miles up-gradient from the river intake
- Raw water conveyance pipeline(s) from the river intake to the SRF
  A high-lift pump station, wet well, and associated electrical, control and telemetry equipment at the SRF (Booster Sta. 1A)
- Raw water conveyance pipeline(s) (approximately 4.5 miles in length) from the Booster Station 1A to Booster Station 2A
- Booster Station 2A, including housing and wet well and/or water tank, but not including individual pumps and related equipment, as described below

At Booster Station 2A, both Las Campanas stand-alone facilities and the City/County shared facilities will be present, and may share space within the same structure(s), but will have independent utility (i.e., Booster Station 2A is the point of divergence between Las Campanas facilities and facilities shared only between the City and County of Santa Fe). The Las Campanas stand-alone facilities will include a high-lift pumping system with associated equipment to convey water to the Las Campanas water treatment plant in a conveyance pipeline approximately

7.5 miles easterly up Buckman Road. Also at Booster 2A, and exclusive of Las Campanas stand-alone facilities, City/County high-lift pumps will convey water approximately 6 miles to the City/County water treatment plant at the MRC.

City of Santa Fe and Santa Fe County Shared Facilities

The City of Santa Fe and Santa Fe County Shared facilities include those facilities shared with Las Campanas from the Rio Grande to Booster Station 2A, and the following facilities:

- Booster Station 2A City/County (only) facilities, such as the booster pumps and related electrical, instrumentation and control equipment, and mechanical equipment, that provide water to the City/County facilities
- Pipeline(s) from Booster Station 2A to the new water treatment plant located at the MRC, approximately 6.25 miles in length
- The water treatment plant at the MRC including Booster Stations 4A and 5A
  Pipeline from Booster Station 4A to the existing Booster Station 3 (since the 10 MG Reservoir feeds both the City and County). Depending on the finalized route, this pipeline would be from 3.5 to 5.8 miles in length.
- Treated water pipelines to the south will convey water to both City and County distribution pipelines, approximately 3.8 miles in length and another segment that is approximately 2.5 miles to the southeast. These lengths need to be confirmed through computer modeling of the connection points. Also, it has been assumed that this is a shared pipeline since treated water feeds City distribution piping and is also metered into the County distribution system.

Las Campanas "Only" Facilities

Las Campanas will have sole financial responsibility for these facilities. The facilities that will be owned and operated by Las Campanas "only" include the following:

- Booster Station 2A Las Campanas (only) facilities, such as the booster pumps and related electrical, instrumentation and control equipment, and mechanical equipment, that provide water to the other Las Campanas facilities
- All treatment and conveyance facilities that are fed by Las Campanas' pumps at Booster Station 2A
- Any new distribution facilities required convey treated and/or raw water within Las Campanas